

Natural Environment

RECOMMENDATIONS

WATER & WASTE WATER

An owner wishing to apply for a minor or major subdivision, shall prove water availability and accessibility.

The proliferation of inadequate individual waste water systems in areas having steep slopes, shallow soils, and fractured bedrock have already polluted groundwater in some portions of the East Mountain Area, and have created growing concerns about public health. Require the use of appropriate technologies for waste water systems processing for private and community systems.

Contractors should install desiltation ponds downgradient from residential areas to enhance recharge of the aquifer. Sheet flow from medians and roadside/parking lot plantings can be directed to drainage swales towards ponding areas, which can also serve as a small native vegetation park.

WILDLIFE

One precaution that can be taken during development design is to designate wildlife corridors through developments, so animals can take non-intrusive paths through human areas to and from water and food sources. These can double as drainage arroyos, perhaps even as enhancements to roadsides when coupled with corridors beneath roads and fences constructed where possible. The New Mexico Department of Game and Fish and the New Mexico Department of Transportation in association with the Wildlands Project are developing wildlife corridors across the highways. Wildlife “culverts” beneath roadways would be appropriate in many areas where the aforementioned effort is underway. Designation of open space contiguous to existing public lands and trails for wildlife corridors should be encouraged.

Landscaping with native vegetation can limit dangerous wildlife/human interactions. Residents should avoid planting non-native species, fruit trees, and berry bushes in order to minimize attracting wildlife to predominately human occupied areas.

NOISES

Noise increases in proportion to development. Development should be limiting in order to limit noise levels. One of the individual factors that affect the noise level is internal and drive-through highway traffic. The use of Jake brakes greatly impacts highway noise. Their use should be declared illegal within the limits of Bernalillo County to reduce noise.

One proactive way for developers to reduce noise is to provide a vegetative buffer between streets and houses. This buffer of native species would also provide privacy and improve the views along designated streets

VISUAL RESOURCES

In connection with the preservation of mountains and valleys, future development should preserve views of these mountains and valleys of the East Mountain Area in order to retain the sense of identity and rural character that mountains and hills impart to the region. Natural features should dominate the rural landscape, while artificial features should not be visible from roadways. Projects that retain most of the vegetation and distinctive features (such as hilltops, outcroppings and meadows) are not only visually attractive, but also ecologically sound and increase the real estate value and may be given a favorable consideration for approval.

The viewsheds of the East Mountain Area should be mapped and delineated to determine the best approach for preserving or improving the visual resources of the area. The delineation of viewsheds would also be helpful in establishing area planning districts and siting future developments.

A viewshed starts at the transition between the development of a road or a village and the surrounding landscape. To determine the extent of the viewshed, important vantage points and significant features in a village should be identified. Foreground, middle ground, and background views should be assessed, and sensitivity (or relative importance) of each view classified. Effects on views should become an integral part of the evaluation of proposed future developments in the East Mountain Area. Current light ordinances should be uniformly enforced in commercial and residential areas. Information about dark skies should be provided to local residents and businesses.

AIR QUALITY

In order to preserve the air quality that EMA residents and visitors enjoy, it is essential to implement measures to maintain it.

It would be useful to inform residents of changing technologies and offer incentives for improved air pollution control systems, as well as placing controls on major industrial pollution point sources. The County should provide incentives for change and encourage EMA residents to educate one another about potential pollution reducing technologies and techniques, and a local economic sector vending appropriate products should be encouraged to develop. Population growth and distribution, air circulation patterns, and pollutant concentrations should be monitored in order to determine how location and type of development will affect the East Mountain Area's airshed. Such an approach will safeguard air quality by guiding development and residents to be more respectful of the environment.

Auto Emissions

Air quality is preserved by keeping motor vehicle traffic minimal and engine emissions low, or by dispersing pollutants into a larger volume of air, thereby reducing concentration of air pollution. Reduction of emissions can be accomplished by limiting the number of vehicles or dispersion units in an area, by mechanical improvements, by intensive education of the public along with incentives for change, and by applying enforceable standards and controls on their maintenance and use.

Scale of Roadways

A hierarchy of roads has been developed to serve various traffic volumes, while generally keeping roadways at a reduced scale. Scale of roadways should be minimized to prevent pollution, to discourage high traffic volumes, encourage non-motorized uses and to retain the rural character of the area (particularly valuable to both residents, tourists and the real estate community). Road “improvements” should be planned with the surrounding countryside in mind. A network of “scenic routes” intended to display and complement the natural environment should be designated. Locally owned public transportation (on-call and scheduled “minibuses”) should be established to discourage automobile travel to central commercial points.

Alternate Transportation

Facilities for walking, bicycling, and horseback riding for recreation should be provided, thereby reducing the need for travel by automobile (Refer to the *Trails* section). Trails along roads should be unpaved for multiuse where convenient. Trails should be sensitively designed to fit in with the natural environment. Bikeways should be created on roads where wide shoulders can be accommodated. The East Mountains Bikeways and Trails Master Plan outlines the options for trails and bikeways and should be used to guide new trail development

Atmospheric Circulation

Sources of pollution can take advantage of prevailing winds and breezes, if related drainageways are left unobstructed so that there is a free flow of air movement.

Dust Control

Construction sites should be required to have top soil disturbance permits and dust control plans, and other paving or gravel surfacing of dirt roads in order to reduce dust from these sources without greatly increasing the traffic speeds or runoff. Materials and construction methodologies are available for sensitively preparing unpaved roads, including appropriate landscaping along roadsides that prevent dust from reaching adjacent buildings, etc

To achieve air quality goals to reduce dust from unpaved roads and construction sites, fugitive dust associated with unpaved roads on public rights of way, construction activity, and other dust-producing activities should be addressed as defined by the Albuquerque/Bernalillo County Air Quality Control Board Fugitive Dust Control regulations. Strategies to reduce fugitive dust include

paving, application of hygroscopic materials, as well as non-toxic chemical stabilizers. A Fugitive Dust Control permit must be acquired from the Albuquerque Environmental Health Department.

Landscaping

Bare areas and green-belts should be landscaped with native plants and native vegetation should be preserved in areas not under active construction to reduce dust.

Buffer Zones

Buffer zones minimize adverse impacts of pollutants on a specific area by reduction of human exposure to the pollution source. Areas most sensitive to air pollution are schools, playgrounds, residential areas, and places where people congregate. Vegetative buffer zones should be established to (“green-belts”) reduce the impact of air, noise, and dust pollution and contribute to the highly valued characteristics of privacy and isolation.

Wood-burning Emissions

All new construction should use more environmentally sensitive wood stoves and incentives should be in place for replacement of older wood-stoves to begin reducing emissions caused by the uncontrolled burning of wood. The supply of environmentally effective materials and equipment by a local industry should be encouraged.

POLICIES

1. In order to minimize environmental and visual damage from new buildings in the East Mountain Area, Bernalillo County Zoning, Building and Planning shall require that all subdivision applications and building site plans include the following:
 - Topography designating areas between 15% and 25% slope and over 25% slope, and ridgetops
 - Existing generalized vegetation
 - Existing floodplains/arroyos, wetlands, and riparian areas
 - Existing roads and/or trails
 - Cleared and graded areas not to exceed minimum required for roadways, home, accessory building, waste water treatment, animal husbandry (where allowed by zoning) and driveway construction.
2. Bernalillo shall encourage the use of native plant materials and xeriscape low water use principles within the East Mountain Area.
3. Bernalillo County shall require that all cut and fill slopes associated with development in the East Mountain Area be re-vegetated with natural plant materials and/or rip-rapped with natural stone to blend with the natural setting. The subdivision ordinance shall be amended to require that major developers must provide a performance bond to provide for this revegetation.
4. Bernalillo County shall encourage the development of individual conservation plans for properties of 10 or more acres in cooperation with the Ciudad Soil and Water Conservation District.

WATER AND WASTE WATER

1. Bernalillo County shall update ordinances governing the approval and construction of individual and community waste water systems and discharge plans that meet the most current New Mexico Environment Department regulations.
2. Bernalillo County shall establish a process for the review and approval of community water systems, including preparation and/or update of design and construction standards.

3. Bernalillo County shall require that for new developments of 25 dwelling units or more, developers and builders must provide either:
 - connection to a regulated sewer system;
 - centralized collection and treatment of waste water (including nitrogen removal);
 - approved alternative on-site non-discharging systems; or
 - conventional systems that meet the requirements specified in the Bernalillo County Waste Water Ordinance 2000-7, *and* an acceptable hydrogeologic, soils, and slope report.
4. All new subdivisions in the East Mountain Area shall be required to study the effects of the development upon the groundwater supply over a 100-year period (prepared by a Hydrogeologist or Groundwater Hydrologist).

***Note:** The State Engineers Office administers the Sandia and Estancia Basins on a 40-year basis, and will not certify water supplies beyond that point.*
5. Bernalillo County shall actively seek grants, loans, Federal and State special appropriations, and provide other funding sources to assist in the construction and customer connection and utilization of community water and waste water systems in conformance with approved area plans, and seek to establish public/private and intergovernmental agreements for continued operation, maintenance and administration of any publicly funded community water or waste water systems.
6. Bernalillo County Zoning, Building, Planning, and Environmental Health Department shall require that all new buildings in the East Mountain Area have ultra-low flush toilets (less than 2 gallons per flush) and low-flow plumbing fixtures.
7. In all areas determined by an on-site soil evaluation approved by Bernalillo County Office of Environmental Health as having moderate or severe restrictions on the development of waste water drain fields, whether for new building permits or subdivisions, the drain fields must meet minimum county and state standards. In those soils where drain fields are not recommended, an alternative system, which can be demonstrated to mitigate the adverse impacts of discharging sewage to the environment, must be provided.

8. Bernalillo County shall require that for new developments of 25 dwelling units or more, developers must provide connection to a centralized water system meeting all state sanitation requirements.
9. Bernalillo County Public Works Division shall prepare a Waste water Service Options Study for the East Mountain Area to include:
 - A water and waste water infrastructure study
 - Evaluation of waste water treatment options for the major subdivisions and population centers in the East Mountain Area.
 - Comparison of the costs and benefits of all waste water treatment options as they pertain to specific development areas.
 - Exploration of financing and management techniques for the various options.
10. Bernalillo County shall pursue the establishment of an incentive program (revolving loan fund, matching funds, grants) to promote the upgrade of existing septic systems to non-polluting alternatives in areas experiencing problems with septic tank effluent (groundwater pollution, well contamination, or public health hazard).
11. Bernalillo County Office of Environmental Health shall update the existing informational booklet on residential on-site waste water systems.

WILDLIFE	Bernalillo County shall encourage the establishment of wildlife corridors to increase the safety of residents and preserve the natural habitat for wildlife.
SOILS, VEGETATION AND TOPOGRAPHY	<ol style="list-style-type: none"> 1. Bernalillo County Public Works Division shall require all future subdivisions in the East Mountain Area to submit an Erosion and Sediment Plan (during and after construction) for review and approval. Use of xeriscaping and natural vegetation should be encouraged. 2. Bernalillo County Public Works Division shall prepare an overall drainage management plan for the entire East Mountain Area. 3. Future trail locations should be placed at an elevation that is above the water surface during a 100-year storm event. 4. All development shall comply with the Federal Stormwater Quality regulations promulgated by the US EPA and as administered by Bernalillo County, the City of Albuquerque, or any other local governmental entities. 5. Usage of road curbing will not be permitted unless it is incorporated in a complete storm drainage system.
AIR, LIGHT, NOISE POLLUTION	<ol style="list-style-type: none"> 1. Bernalillo County shall integrate air quality considerations into zoning and land use decisions to prevent air quality/land use conflicts. 2. Bernalillo County shall require new buildings in the Area to have low-emissions fireplaces and wood-burning stoves.

IMPLEMENTATION

NATURAL ENVIRONMENT

- Water and Waste water Systems (installation and upgrades)
- Visual Impact Analysis

WATER and WASTE WATER SYSTEMS

The Bernalillo County Subdivision Ordinance shall be revised to require all new subdivisions in the East Mountain Area to study the effects of the proposed development upon the groundwater supply over a 100-year period (prepared by a Hydrogeologist or Groundwater Hydrologist).

Bernalillo County will update ordinances governing water and waste water issues to be consistent with New Mexico Environment Department regulations.

Bernalillo County shall prepare and adopt a Waste water Services Option Plan for the East Mountain Area before 2008.

Bernalillo County shall prepare and approve an overall drainage management plan for the East Mountain Area prior to 2010.

VISUAL RESOURCES

Bernalillo County shall establish an ordinance to require the use of native plant material and xeriscape principles.

The Bernalillo County Subdivision Ordinance should be revised to include requirements for the preservation of visual resources. Prior to construction, developers should be obligated to show the potential impacts of the development on the areas visual resources. The developer should also provide natural visual buffers between adjacent developments when feasible.

In addition, enforcement of existing building regulations will help ensure that structures are built in appropriate places.

AIR, LIGHT, AND NOISE POLLUTION

Bernalillo County will establish an ordinance to require new buildings in the area to have low-emissions fireplaces and wood-burning stoves. Bernalillo County will establish an ordinance that requires new buildings that include fireplaces or wood burning stoves to use low emission fireplaces or stoves.

REVIEW AND EVALUATION

Purpose: to measure the ability of the area's resources to support new development. To determine how much additional development is possible in the future.

The natural environment in the East Mountain Area is vulnerable to degradation due to the area's unique combination of steep slopes, shallow soils, fractured bedrock, dependence upon ground water, scenic beauty, and the lack of urban water and sewer facilities systems.

Increased development makes demands on these resources and impacts the unique conditions. Analyses of these conditions prior to development can provide Bernalillo County with information on the appropriateness of the proposed development.

Water availability statements- Developers must provide documentation proving that they have sufficient water and water rights to furnish proposed development with water for a period of 100 years.

Permitted waste water systems-reduce the likelihood of soil and groundwater contamination.

Bernalillo County Office of Environmental Health shall record and compile an annual report of the number of permits and waste water systems installed.

Critical Area protection – The open spaces and trails network included on public and private land provides wildlife corridors, preserves native vegetation and protects the quality of surface water.

Visual resources analysis- By 2010, Bernalillo County shall conduct a visual resource analysis that would inventory and evaluate the visual resources within the area. Following the analysis, a visual resource management rating should be assigned to lands that could potentially be impacted by development. This rating would indicate the varying need of preservation, and should be updated every 5 years. The visual resource management rating would aim to influence the design and scale of structures to be compatible with the surrounding community.